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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/610,683	07/02/2003	Shigemi Hirasawa	501.42899X00	2909

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EXAMINER	
WALFORD, NATALIE K	

ART UNIT	PAPER NUMBER
2879	

NOTIFICATION DATE	DELIVERY MODE
07/16/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/610,683	HIRASAWA ET AL.	
	Examiner	Art Unit	
	Natalie K. Walford	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-7 and 10-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-7 and 10-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The Amendment, filed on April 6, 2007, has been entered and acknowledged by the Examiner. Newly added claims 15-18 have been entered. Claims 1, 4-7, and 10-18 are pending in the instant application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4-6, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattori (US 5599749) in view of Kuroda et al. (US 6,265,822).

Regarding claim 1, Hattori teaches a display device (figure 29) comprising: a front substrate (66; column 21 line 40 to column 22 line 26; figure 29) forming an anode (67) and phosphors (68) on an inner surface thereon; a back substrate (61) having electron sources (64), provided within a display region, on an inner surface thereof (see figure 29), the back substrate being arranged to face the front substrate in an opposed manner with a given distance there between (see figure 29); an outer frame (left and right 70) which is interposed between the front substrate and the back substrate (66; 61) such that the Outer frame surrounds the display region (not numbered; see figure 29) so as to maintain the given distance (see figure 29); and distance holding members (middle 70) being sandwiched between the front substrate (66) and the back

substrate (61) in an erected manner with in the display region (see figure 29) and holding a distance between the front substrate and the back substrate at a given distance; wherein an inside space (not numbered) is surrounded by the front substrate (66), the back substrate (61), and the outer frame (left and right 70; see figure 29) is sealed at a given degree of vacuum (column 1 lines 12-41); and wherein a buffering/fixing material (not numbered; column 21 lines 60-67) is provided between the distance holding member (middle 70) within the display region and at least on of the front substrate and the back substrate (see figure 29), and the buffering/fixing material if formed by an adhesive (column 21 lines 60-67).

Hattori does not specifically teach that the buffering/fixing material includes conductive particles. In the same field of endeavor, Kuroda teaches a display device (figure 5A) in which the use of a buffering/fixing material that is made of conductive particles mixed with light shielding material (20a; column 21 lines 31-42) is used for a distance holding member within the display region (column 21, lines 31-42) in order to not generate a color shift even if there is some displacement of an of electron beam position, in order to prevent the display contrast from being lowered by intercepting external light reflection, and for other purposes (column 12, lines 15-21). Thus, it would have been obvious at the time of the invention to one of ordinary skill in the art to incorporate to conductive light shielding bonding material of Kuroda with bonding material of Hattori.

In regard to applicant's recitation of the buffering/fixing material that is formed by mixing an adhesive with a highly resilient material, which dissipates in a baking step, the Examiner notes that the recitation is considered a product by process limitation. The patentability of the claim resides on the final product and not the process by which is manufactured.

Accordingly, Uchiyama teachings of a buffering/fixing material made with adhesive material is considered to meet the claimed recitation, since the highly resilient material is not part of the finished product.

Regarding claims 4 and 5, applicant's recitation of the buffering/fixing material that is formed by mixing an adhesive with a highly resilient material, which dissipates in a baking step, is considered a product by process limitation. It has been recognized that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process," In re Thorpe, 777 F.2d 695,698, 227 USPQ 964, 966 (Fed. Cir. 1985). See also MPEP 2113. Since the highly resilient material is removed from the adhesive in the baking step, the material is no longer present in the final product. Therefore, Accordingly, Hattori/Ito's teaching of a conductive adhesive is considered to meet the claimed recitation.

Regarding claim 6, Hattori teaches low melting-point glass is used as the adhesive (column 21 line 40 to column 22 line 26).

Regarding claim 13, Hattori teaches the buffering/fixing material (not numbered; column 21 lines 60-67) fixes the distance holding member (middle 70) to at least one of the front substrate (66) and the back substrate (61) and to at least one other of the front substrate (66, via 67) and the back substrate (61. via 62; see figure 29).

Regarding claim 15, Hattori teaches the distance holding members are non-conductive members (column 21, lines 64-67 and column 22, lines 13-14).

Regarding claim 16, Hattori teaches the distance holding members are formed of glass (column 21, lines 64-67 and column 22, lines 13-14).

Claims 7, 10-12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattori (US 5,599,749) in view of Kudora et al. (US 6,265,822) and Uchiyama (US 6,265,770).

Regarding claims 7, 10 and 11, Hattori teaches a display device (figure 29) comprising: a front substrate (66; column 21 line 40 to column 22 line 26; figure 29) forming an anode (67) and phosphors (68) on an inner surface thereon; a back substrate (61) having electron sources (64), provided within a display region, on an inner surface thereof (see figure 29), the back substrate being arranged to face the front substrate in an opposed manner with a given distance there between (see figure 29); an outer frame (left and right 70) which is interposed between the front substrate and the back substrate (66, 61) such that the outer frame surrounds the display region (not numbered; see figure 29) so as to maintain the given distance (see figure 29); and distance holding members (middle 70) being sandwiched between the front substrate (66) and the back substrate (61) in an erected manner with in the display region (see figure 29) and holding a distance between the front substrate and the back substrate at a given distance; wherein an inside space (not numbered) is surrounded by the front substrate (66), the back substrate (61)i and the outer frame (left and right 70; see figure 29) is sealed at a given degree of vacuum (column 1 lines 12-41); and wherein a buffering/fixing material (not numbered; column 21 lines 60-67) is provided between the distance holding member (middle 70) within the display region and at least on of the front substrate and the back substrate (see figure 29), and the buffering/fixing material if formed by an adhesive (column 21 lines 60-67). Hattori does not

specifically teach that the buffering/fixing material includes conductive particles and a highly resilient material that is present after a baking step, the highly resilient material being aramid-based fibers (a.k.a. Kevlar).

Hattori does not specifically teach that the buffering/fixing material includes conductive particles. In the same field of endeavor, Kuroda teaches a display device (figure 5A) in which the use of a buffering/fixing material that is made of conductive particles mixed with light shielding material (20a; column 21 lines 31-42) is used for a distance holding member within the display region (column 21, lines 31-42) in order to not generate a color shift even if there is some displacement of an of electron beam position, in order to prevent the display contrast from being lowered by intercepting external light reflection, and for other purposes (column 12, lines 15-21). Thus, it would have been obvious at the time of the invention to one of ordinary skill in the art to incorporate to conductive light shielding bonding material of Kuroda with bonding material of Hattori.

In the same field of endeavor of adhesive resins, Uchiyama teaches the use of a buffering/fixing material in a display device that is made of an adhesive material mixed with a highly resilient material (column 7 lines 19-26). Accordingly, Uchiyama exemplifies the art recognized equivalence of glass fiber and epoxy resin with aramid based fibers and BT resin, thus, one skilled in the art at the time of the invention would reasonable contemplate modifying the epoxy resin of Hattori and Kudora to incorporate the aramid based fibers of Uchiyama since the selection of either art recognized equivalent assemblies would be considered within the level of skill in the art.

Regarding claim 12, Hattori teaches low melting-point glass is used as the adhesive (column 21 line 40 to column 22 line 26).

Regarding claim 14, Hattori teaches the buffering/fixing material (not numbered; column 21 lines 60-67) fixes the distance holding member (middle 70) to at least one of the front substrate (66) and the back substrate (61) and to at least one other of the front substrate (66, via 67) and the back substrate (61. via 62; see figure 29).

Regarding claim 17, Hattori teaches the distance-holding member are non-conductive members (column 21, lines 64-67 and column 22, lines 13-14).

Regarding claim 18, Hattori teaches the distance holding members are formed of glass (column 21, lines 64-67 and column 22, lines 13-14).

Response to Arguments

Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

nkw

7/6/07

Sikha Roy
SIKHA ROY
PRIMARY PATENT EXAMINER